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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,315	04/26/2000	SANDRINE DECOSTER	057250553	2035

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ART UNIT	PAPER NUMBER
1615	21

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/509,315	Applicant(s) DECOSTER ET AL.	
	Examiner Lakshmi S Channavajjala	Art Unit 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17,18,20,21 and 23-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17,18,20,21 and 23-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Receipt of request for extension of time and amendment E dated 3-20-03 is acknowledged. Claims 17, 18, 20, 21 and 23-36 are pending.

Instant claims 17 and 35 have been amended to incorporate anionic surfactant and claim 18 has been deleted. Instant independent claim 17 recite a detergent and conditioning composition comprising, in a cosmetically acceptable medium:

1) 5% to 40% by weight of at least one anionic surfactant

2) A conditioning system comprising: i) at least one cationic polymer and ii) at least one amine-comprising silicone with an average molecular mass ranging 1000 to 25000, where the amine-comprising silicone is chosen from formula I or II.

Instant independent claim 35 recites a process for washing and conditioning keratinous substances comprising wetting the keratinous substance and applying to the wetted keratinous substances an effective amount of the composition, which is the same as in claim 17.

In light of the amendment, the scope of the claims has been changed and accordingly, the previously applied (paper # 17) has been maintained but with a new interpretation.

Claim Rejections - 35 USC § 103

Claims 17-21 and 23-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over 4,529,586 ('586) in view of WO 94/06403 to Reich et al (WO).

Instant claim 17 is directed to a detergent and conditioning composition comprising, a cosmetically acceptable medium, 4% to 50% anionic surfactant, and a conditioning system that comprises at least one cationic polymer and one amine-containing silicone polymer having a

molecular weight of 11,000 to 25,000. Claim 20-21 further limits the amounts of anionic surfactant. Claims 23-26 further limit the amounts of amine-containing silicone. Claims 27-30 limits the amounts of cationic polymer. Claim 31 recite specific cationic polymers i.e., cyclopolymers. Claim 32 recite a quaternary cellulose derivative. Claim 33 recite cationic polysaccharides such as modified guar gums. Claim 34 recites pH 3-10. Claims 35-36 are directed to a process of using instant composition.

'586 teaches hair conditioning composition comprising an amino functional silicone polymer in an aqueous emulsion such as amidomethicone, a cationic surfactant and a cationic polymer, for increasing the combability of the hair and improving the durability of the conditioning effect (see abstract). The amino silicone polymer of '586 reads on the instant silicone. See the formula and the description of the variables x and y, in col. 2. '586 teach the amounts of cationic polymers, cationic surfactant and amino silicone polymer, which fall within the range of amounts claimed in the instant invention (col. 2, lines 28-43col. 6, lines 25-45). '586 also disclose cationic polymers such as quaternium-40, quaternized polyvinyl pyridine, qauternized polyethelenimine & quaternium-19 (col. 3-5). The later is a polymer of hydroxyethyl cellulose reacted with epichlorohydrin and then quaternized with trimethylamine, sold under the name Polymer JR-400, which is also described in the instant specification page 15, lines 16-24.

'586 fail to teach 5% to 40% anionic surfactant, instant modified guar gums and the claimed amounts of surfactants. '586 fail to teach a hair shampoo together with a conditioner. Instead '586 teach shampooing before or after applying the conditioning composition.

WO teaches hair-conditioning shampoos containing cationic polymer, anionic surfactant, hair conditioning amino functional silicone polymer and a dispersing agent. WO discloses the

same 5% to 40% of anionic surfactants, cationic polymer of the instant claim 31 i.e., a copolymer of acrylamide and dialkyldiallylammonium salt and in the same amounts (abstract, pages 3-4).

Therefore, it would have been obvious for a skilled artisan at the time of the instant invention to add 5% to 40% anionic surfactant of WO in the conditioning composition of De Marco, WO teaches that their mid-to-high charge density cationic polymer can be successfully used in combination with anionic surfactants in the shampoo, without having the complexation problems between the cationic polymer conditioner and the anionic surfactant cleanser. The expected result would be a two-in-one shampoo-conditioner formulation without any complex forming problems. Further, it would have been obvious to a one of an ordinary skill in the art use the copolymer of acrylamide and dialkyldiallylammonium salt (of WO), as a cationic polymer, in the hair conditioning composition of '586 because WO suggests that the copolymer imparts better hair conditioning benefits to hair compositions containing conditioning agents and also exhibits compatibility with surfactants present in the composition. WO also teaches dispersing agents such as qauternized derivatives of polysaccharides, including hydroxyethyl cellulose, guar gums cationic gaur gum or Polymer JR (page 10, lines 13-16). Instant specification, page 15, lines 16-24 state that JR polymers are quaternary ammoniums of hydroxy ethylcellulose which has reacted with an epoxide substituted by a trimethylammonium group. Accordingly, the JR polymers of WO meet the requirement of instant claim 33i.e, modified guar gums. Accordingly, it would have been obvious for a skilled artisan at the time of the instant invention to add the qauternized guar gum of WO, in the hair product of '586 because WO teaches that the qauternized guar gum acts as a dispersing agent and improves the stability of the emulsion or suspension.

Further, absent criticality, adjusting the pH of a hair conditioning composition close to that tolerated by hair and scalp would have been within the scope of a skilled artisan because, a skilled artisan would expect the composition to be effective in conditioning the hair as well as not exert an undesirable effect (harmful effect) on the scalp and hair, with which it is contact.

Response to Arguments

Applicants argue the following:

A. **Selection of an aminosilicone polymer in the claimed weight range of 11,000 to 25,000 is not taught or suggested by de Marco or Reich**.

Applicants argue that De Marco teaches amino silicone polymers in the molecular weight range 5,000 to 100,000, which is much broader than the claimed 11,000 to 25,000. Further, it is argued that an unexpected improvement in the conditioning property of hair samples with the claimed amino silicone is presented on pages 31-33 of instant specification, while it is not observed with amino silicone outside claimed molecular weight range. Applicants argue that the De Marco lacks a teaching of selecting a narrow range of molecular weight from a broad range for its beneficial effect and therefore the instant composition is not obvious.

Applicants arguments have been considered but not found persuasive because while De Marco does not suggests selecting a narrow range, their teaching that the amino silicone of molecular weight between 5000 to 100,000 for hair conditioning effect (a "result effective" teaching) suggests that the molecular weight is not critical for its conditioning efficiency. Next, in response to the unexpected results provided in the instant specification, a careful review of the examples on pages 31-33 show that the amino-silicone employed in the "inventive" composition

(composition A) does not state whether the amino-silicone is of which type i.e., formula I or formula II. Further, the compound used is not a single amino-silicone and instead is a cationic emulsion sold as "Silsoft TP515 SILICONE EMULSION" (page 33, l 4-8), which comprises in addition to amodimethicone, a cationic surfactant comprising a mixture of products corresponding to a quaternary ammonium compound (see the formula and description on page 28, lines 1-9). Thus, the unexpected conditioning effect is not necessarily due to the claimed amodimethicone and instead is imparted by an amodimethicone as well as the cationic surfactant. Further, while the comparative example employs amino-silicone outside the claimed range of molecular weight, the examples do not include any aminosilicone below the claimed range. Thus, without any comparison between aminosilicone of claimed molecular weight range versus aminosilicone below the claimed range, one cannot argue the criticality of the claimed molecular weight range. For a proper comparison, aminosilicone with a molecular weight that falls within the claimed range should be compared with aminosilicones outside the range i.e., above and below the claimed ranges.

B. **Examiner has confused the teachings of De Marco**:

Applicants argue that examiner interpreted the cationic surfactants reads on instant washing base and also use the same cationic surfactant for its conditioning effect. Applicants state that instant claims clearly require a washing base and a separate conditioning system and the purpose of the surfactant, in the amounts required, in the instant composition is as a washing base and not as a conditioning effect and that de Marco's cationic surfactant cannot be relied upon by the examiner to cover both the claim elements. Applicants' argument is well taken, however the argument is moot in light of the amendment E. Instant amendment does not recite

washing base and instead requires an anionic surfactant and accordingly, whether examiner interpreted the cationic surfactant as a washing base or not is moot.

C. **De Marco teaches away from the combination with Reich**:

Applicants argue that examiner has committed a legal error by failing to consider that De Marco clearly teaches away from the combination with Reich and that neither reference contains a sufficient teaching or suggestion that such a combination would have been beneficial. Further, applicants argue that De Marco fails to teach other types of surfactants other than cationic and fails to suggest other surfactants for hair conditioning. Furthermore, applicants argue that De Marco teaches no more than 0.4% cationic surfactants for reducing the static retention in hair samples treated with them, above which the conditioning efficiency is reduced. Whereas, applicants argue that Reich does not teach cationic surfactants and the only surfactants (anionic) taught by Reich are in 10-fold higher concentrations than surfactant requirement of De Marco. Applicants' argument has been considered but not found to be persuasive because the argument regarding cationic surfactants and its teachings by De Marco is moot in view of the amendment.

De Marco teaches a conditioning composition containing amine-containing silicone, a cationic polymer and cationic surfactant. The amine containing silicone of De Marco meets the structure requirement of instant formula I, but teaches a molecular weight of 5000 to 100000. De Marco also teaches the cationic polymer that is claimed in the instant claim 31. De Marco does not teach a shampoo and a conditioner in one composition unlike the instant claimed detergent composition containing a conditioning system. De Marco differs from the instant claims in the absence of an anionic surfactant, in particular, 5% to 40% anionic surfactant.

Reich teaches a shampoo and a conditioner in one composition containing 5% to 40% anionic surfactant, 0.01 to 5% cationic polymer, 0.1 to 10% water-insoluble hair conditioning agent including aminosilicones and dispersing agents. Reich teaches that although cationic polymers are known to form complexes with anionic surfactants and thus result in an unstable product, their vinyl-type cationic polymers as e.g., dialkyl diallyl ammonium salt, which have a high to mid charge density, together with the water-insoluble conditioning agent provide stability to the shampoo composition and at the same time provide good conditioning benefits. In particular, Reich teaches aminosilicones are effective as conditioning agents. Thus, incorporating the anionic surfactant of Reich in the hair conditioning composition of De Marco would enable one of an ordinary skill in the art to prepare a conditioner as well as a shampoo in the same composition instead of using them separately and provide excellent conditioning benefits without encountering the complexation problems between the anionic surfactants and the cationic polymer. Thus, applicants arguments that Reich does not teach cationic surfactants is not persuasive because the motivation to combine the teachings of Reich comes from the teaching of anionic surfactant in the composition of de Marco and thus prepare a 2-in-one shampoo conditioner composition.

With respect to the mechanism of action of the cationic polymer, applicants argue that De Marco teaches away from the instant invention because the cationic polymer of De Marco is taught to be forming complexes with the negative sites on the hair (a residue left from the use of anionic surfactant containing shampoo) and provide conditioning effect. Applicants argue that one of an ordinary skill in the art would not be motivated to combine 5% to 40% anionic surfactant with 0.5% to 1% cationic polymer because whatever small amount of cationic polymer

(required for complexing with hair to provide conditioning effect) would form a complex with the anionic surfactant that is present in 4-fold greater amounts and thus no cationic polymer would be left for conditioning effect. The argument is not persuasive for two reasons because if applicants argue that a high amount of anionic surfactant would immediately neutralize the low amount of cationic polymer (that provides conditioning benefit), instant claims also use the same amounts of polymer and accordingly should yield in the same result/problem. Further, both De Marco and Reich not only teach the cationic polymer (0.05% to 5% and 0.01% to 5% respectively) but also amine-containing silicone (0.2 to 10%-De Marco versus 0.1% to 10% of water-insoluble condition agent by Reich) for the additional conditioning effects. The same is being achieved by instant invention because the unexpected results on page 31 shows that the softness, the body, feel and the sleekness of the hair observed with the inventive composition is due to the presence of amodimethicone and not due to the cationic polymer. Instant claim 24 also recites 0.05% to 10% of amine-containing silicone and claim 27 recites 0.001% to 10% of cationic polymer. Thus, both the cited references and the instant claims recite same amounts of amine-silicone and cationic polymer; and Reich teaches the same amounts of anionic surfactants as that of the instant. Accordingly, any argument regarding the complex formation between anionic surfactants and cationic polymers that reduces the conditioning benefits is also applicable to the instant invention.

Applicants argument regarding the amine-silicone of Reich being different from instant is not persuasive because the combination of references is based on the adding the anionic surfactant of Reich in the hair composition of De Marco with an expectation to produce a 2-in-one i.e., a shampoo as well as a conditioner composition. Further, De Marco also postulates a

part of the cationic polymer reacts with the negative sites on the hair in the presence of the anionic surfactant and remains attached to hair through shampoos, thus suggesting that the presence of anionic surfactant is not going to hinder the conditioning property of cationic polymer (even though the latter is present in low amounts). Thus, taken as whole, it is examiner's position that De Marco does not teach away from the instant invention. With respect to applicants' argument that neither reference teaches amphoteric, zwitterionic, non-ionic surfactants, instant claims as amended do not recite these surfactants and hence the argument is moot.

Conclusion

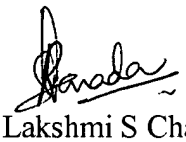
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lakshmi S Channavajjala whose telephone number is 703-308-2438. The examiner can normally be reached on 7.30 AM -4.00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7924 for regular communications and 703-308-7924 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.



Lakshmi S Channavajjala
Examiner
Art Unit 1615
June 20, 2003